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ABSTRACT

        Problems are frequently encountered when attempting
to improve the evaluation design of an ongoing educational program
which has not made adequate provisions for evaluation. Usually the
objectives of such a program are too global to guide the evaluator in
the development of a more functional evaluation design. This paper
presents a discussion of the activity analysis approach which is
helpful in such a situation to obtain information needed in the
development of an improved evaluation design. Once this information
has been obtained it can be used by an evaluator in the development
of a more comprehension evaluation design for the ongoing program.
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ACTIVITY ANALYSIS:

An Approach To Improving The Evaluation Design
Of Ongoing Educational Programs

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INTRODUCTION

Although most state and federal agencies require that an
evaluation design accompany a proposal for the funding of a
new educational program, some local school districts, community
agencies, and regional centers, are receiving funds to support
programs which do not have adequate provisions for evaluation.
As administrators of such programs become aware that the amount
of future funding is dependent on the quality of the evaluation
of their project, they seek consultant assistance for the de-
velopment of more substantive evaluation designs.

A recent event which precipitated such activity was the
transfer of some ongoing educational programs from the United
States Office of Education and the Office of Educational
Opportunity to the National Institute of Education. Some of
these ongoing projects were funded on the basis of the needs
they would service and the unique means in which they would
meet those needs. For some projects, the evaluation design
consisted of the minimal assessment of summative outcomes.
Since NIE has required a more comprehensive evaluation of their
funded programs, many project administrators were faced with
incorporating formative evaluation activities into their designs
as well as improving the quality of their summative evaluation
activities. While working with program administrators confront-
ed with the task of improving the evaluation component of their

project, it has become evident that the major problem in this effort is communication. More specifically, the quality of the new evaluation design as well as the time needed to develop such design is dependent upon the ability of the program staff to communicate the essence of the project to the evaluation consultant. The activity analysis approach has been developed to maximize communication between the program staff and evaluation consultant and thus, maximize their efforts to develop a more functional design for the evaluation of the project.

BACKGROUND

The major problem encountered when attempting to improve the evaluation design of an ongoing program is usually the failure of the program objectives to communicate to the evaluator the specific activities being undertaken or the specific outcomes expected. Often the evaluator is presented with program objectives which are similar to the one which follows:

> Through the implementation of a Comprehensive
> Diagnostic Center, Project Help will expedite
> the referral and diagnosis of students with
> learning disabilities.

Although this objective conveys the general activity of establishing a diagnostic center and the general outcomes of expediting the referral and diagnosis of students with learning disabilities, this information is not sufficient for the development of a functional evaluation design, that is, an evaluation

design which would provide the program administrator with both formative and summative feedback. In order to obtain the more specific information desired, the evaluator has tended tradi- tionally to review the documentation on the program and meet with program personnel until enough specific information has been collected to formulate an appropriate evaluation design. Although this practice is widely accepted, some problems can be encountered when applying this approach in a program setting.

First, the process of meeting with program staff to clarify activities and outcomes can be quite costly, especially for large projects. In some large program settings, it could take up to two weeks of on-site visitation for a consultant to obtain the necessary information to develop a functional evaluation design. Often programs in need of this assistance, do not have the necessary funds at their disposal to support such preliminary evaluation activities.

Secondly, it is not always easy to obtain the assistance of a competent evaluation specialist to improve the evaluation of an ongoing program. Some evaluation specialists do not look forward to meeting with program personnel to extract from them the specifics of their project activities and intents. Their basic reason being the amount of time "wasted" in the process of general introductions to program personnel, coffee breaks, telephone interruptions, and discussions of the generalities of the program before one gets down to the real specifics of the program. Many qualified evaluation specialists find it

discouraging to work in such practical settings since they feel it is an inefficient use of their time and expertise.

Finally, in cases where the program objectives as well as other documentation are vague, meetings with program personnel for further clarification of program activities and intents can focus on those aspects of the project which the staff would like to see evaluated rather than those aspects which should be evaluated. A program evaluation design based on such input would not be comprehensive, but instead, would focus on those areas of crucial interest to the program staff. Although some evaluation specialists might argue that this practice is acceptable, most funding agencies would disagree. The goal of the evaluator is to take a comprehensive look at the impact of the total program, not just those areas of primary concern to the program staff.

Although these are not all of the problems which can be encountered when the evaluation specialist and program staff join forces to improve the evaluation design of an ongoing program, they are some of the more common difficulties experienced. These problems have not been cited to discourage such joint efforts, but rather to illustrate the need to develop a less costly and more efficient process whereby the evaluation specialist and program staff can work together toward their common goal of developing a more comprehensive design for the evaluation of an ongoing educational program. Activity analysis was developed in response to this need.

THE ACTIVITY ANALYSIS RATIONALE

Activity analysis is an approach to the development of an improved evaluation design through the systematic delineation and analysis of the activities inherent in each of the global objectives of an ongoing program. Although activity analysis can be introduced into an ongoing program by an evaluation specialist, the primary responsibility for the review of activities related to program objectives rests with the program personnel. Initially, activity analysis may appear to be a new term for the restatement of global objectives in specific operational terms. As the rationale for activity analysis is presented, it will become evident that the restatement of global objectives in operational terms is only one aspect of activity analysis.

The initial step in applying the activity analysis rationale to an ongoing program is to delineate the activities inherent in each of the global objectives of the program. When listing these activities, they should be described in operational terms. Next, it is important to evaluate the activities for each objective on the basis of their clarity, necessity, and sufficiency relative to the attainment of the objective. In other words, for each objective it is necessary to review the activities listed to be sure they are described clearly in operational terms which would convey the essence of the activity to a person not closely involved with the operation of the program. Also, it is important to assess

the activities related to each objective as a whole to deter-
mine whether it is necessary to pursue each activity in order
to attain the objective.   Peripheral activities which are
not essential to the attainment of the objective may be eli-
minated.   Finally, the activities directed toward each pro-
gram objective should be examined in total to determine
whether the completion of these activities would insure the
attainment of the program objective.   If the activities are
not sufficient for the achievement of a program objective,
it is necessary to delineate those additional activities which
must be pursued in order to reach the objective.

Once the activities related to each program objective have
been adequately delineated and screened according to the cri-
teria of clarity, necessity, and sufficiency, the structure
and sequence of these activities should be specified.   The
structure consists of a detailed explanation of each activity,
whereas the sequence is the temporal arrangement of these acti-
vities.   Once the structure and sequence of the activities
related to each objective are specified, the program adminis-
trator has at his disposal a detailed blueprint or map of the
program objectives and concommitent activities which the pro-
ject proposes to complete.   The general format of this map is
illustrated in Figure 1.

Before proceeding with the activity analysis rationale
the program administrator should conduct an objective by ob-
jective review of this map to determine whether the resources

FIGURE 1

General Format of the Map of Program Objectives and
Activities Developed Through the Application of Activity Analysis

PROGRAM OBJECTIVE 1

    Activity 11
    - Detailed description of activity 11

    Activity 12
    - Detailed description of activity 12

    Activity 13
    - Detailed description of activity 13

    •
    •
    •

    Activity 1n
    - Detailed description of activity 1n

PROGRAM OBJECTIVE 2

    Activity 21
    - Detailed description of activity 21

    Activity 22
    - Detailed description of activity 22

    Activity 23
    - Detailed description of activity 23

    •
    •
    •

    Activity 2n
    - Detailed description of activity 2n

  •
  •
  •

PROGRAM OBJECTIVE N

    Activity N1
    - Detailed description of activity N1

    Activity N2
    - Detailed description of activity N2

    Activity N3
    - Detailed description of activity N3

    •
    •
    •

    Activity Nn
    - Detailed description of activity Nn

of the program are sufficient to complete an effort of this magnitude. If the necessary program resources are not available, decisions must be made to reduce the scope of some of the activities, eliminate some activities entirely, and possibly, to delete some entire objectives from the program plan. The result of such a review is a revised map of program objectives and concommitent activites which can be completed realistically, given the available program resources.

The final step in applying the activity analysis rationale consists of developing an activity analysis table for each program objective on the basis of the information presented in the program map. A sample activity analysis table is presented in Table 1. An activity analysis table is similar to the program map in that it contains a statement of the program objective as well as a delineation of the program activities essential to the attainment of that objective. In addition, the activity analysis table includes such information as: the agents responsible for the activity, starting date, planned completion date, actual completion date, and activity score. Responsibility for an activity can be either primary or secondary. If an agent assumes primary responsibility, the name of this agent appears in capital letters. However, if the agent assumes secondary responsibility, the name of this agent appears in lower case letters. The activity score is a subjective estimate of the relative contribution of the activity to the attainment of the objective stated in the

TABLE 1

Sample Activity Analysis Table

STATEMENT OF THE GLOBAL PROGRAM OBJECTIVE

Activity	Responsible Agents	Starting Date	Planned Completion date	Actual completion date	Activity Score
Activity 1 - description	PRIMARY Secondary	7/72	7/73	6/73	15
Activity 2 - description	PRIMARY Secondary	7/73	10/73	11/73	5
Activity 3 - description	PRIMARY Secondary	9/73	10/74		45
Activity 4 - description	PRIMARY Secondary	9/73	10/74		10
Activity 5 - description	PRIMARY Secondary	1/74	6/74		25

Total Activity Score (TS) = 100

Sum of the activity scores for the completed activities (SAC) = 20

% Completed to date for this program objective = 20%

table. This estimate is made by the program director after taking into consideration the amount of time and other program resources which must be expended in order to complete the activity. It is evident from the sample activity analysis table that:

IF

> SAC = Sum of the activity scores of the completed activities
> TS = Total activity score

THEN

> $\frac{SAC}{TS}$ X 100 = % completion to date for the program objective

The calculation of percent completion to date is simplified somewhat if the scores assigned to the activites in the table are based on a total activity score of one hundred (100). In such cases, percent completion to date is equal to the sum of the scores for the activities completed.

Once the activity analysis rationale has been applied to the global objectives of an ongoing program, the program staff can better communicate their intents and activities to an evaluation consultant. The resultant activity analysis tables provide the evaluation consultant with the following information regarding each global objective of the program:

1. A description of each program activity in operational terms;

2. An indication of the individual or agent responsible for each activity;

3. An indication of when each program activity has been or will be initiated;

4. An indication of when each program activity has been or will be completed.

Given this type of information, the evaluation specialist can work efficiently with program staff on the development of an improved design for the evaluation of the program. Although some time will still be spent with program staff on clarifying some of the program activities and intents conveyed through the activity analysis tables, the time spent with program staff is significantly reduced through the application of the activity analysis rationale.

In addition to facilitating the development of an improved evaluation design, the total program benefits from the application of activity analysis since the program director is forced to develop a detailed description and schedule of program activities which can be attained realistically. The format of this program description and schedule (i.e., the activity analysis tables) enables the program director to estimate at any time the progress of the program toward the attainment of its objectives.

CONCLUDING REMARKS

The activity analysis approach has been used by the author in the development of an evaluation design for several programs. The cooperation of program directors in the application of activity analysis has been quite favorable. The largest program to which activity analysis has been applied is the Holliston (Massachusetts) Middle School Project

(Title III, ESEA)*. In one month the activity analysis rationale was applied to the twenty-three major objectives of the Middle School Project. An activity analysis table for one of the objectives of this project is presented in Table 2. In this particular application of activity analysis the description of each activity related to this major program objective was placed in a narrative section following the activity analysis table, rather than in the table itself.

In addition to facilitating the development of an improved evaluation design, activity analysis provides program staff with a sense of involvement in the formulation of this design. When utilizing the traditional approach of meeting with program staff individually to clarify program activities and intents, the staff does not usually perceive their comments to be direct inputs into the formulation of an improved evaluation design. Sitting down and talking with an evaluation consultant does not tend to give one the feeling of actively participating in the evaluation design process. On the other hand, if staff are familiarized with the activity analysis rationale and asked to develop activity analysis tables, they tend to feel they are making a tangible contribution to the process of formulating an improved evaluation design. This feeling of active participation has added benefits

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*Holliston's Middle School Project: A Systems Approach to Middle School Education. Application for Continuation Grant, November 30, 1968, Title III, ESEA Project No. 68-544.

TABLE 2

An Example of the Application of Activity Analysis to One of The Major Objectives of the Holliston Middle School Project

TO <u>PILOT TEST</u>, <u>REFINE</u>, AND <u>EXTEND</u> THE KNOWLEDGE CONTROL INVENTORY (KCI) WHICH HAS BEEN DEVELOPED IN PROTOTYPE FORM DURING THE PLANNING PHASE OF THE PROJECT

<u>THE DESIGN PHASE</u>	Responsible Agent	Starting Date	Planned completion Date	Completion Date	Activity Score
THE DESIGN ACTIVITY					
1. To <u>Research and Develop</u> a prototype	PROJECT[1]				
a. In Language Arts	School	2/68	6/68	6/68	15
b. In Social Studies					
2. To <u>Pilot Test</u> prototype in clinical	PROJECT				
summer school during planning cycle	School	7/68	8/68	8/68	15
a. In Language Arts					
b. In Social Studies					
3. To <u>Pilot Test</u> prototype in clinical	PROJECT				
summer school during teaching cycle	School	7/68	8/68	8/68	15
a. In Language Arts					
b. In Social Studies					
4. To <u>Refine</u> social studies prototype	PROJECT				
	School	9/68	4/69	4/69	15
5. To <u>Extend</u> KCI into each curriculum	PROJECT				
area	School				
a. Into Social Studies		9/68	4/69	4/69	6.67
b. Into Reading		9/68	4/69	4/69	6.67
c. Into Language Arts					
(1) Sentence Study		9/68	4/69	4/69	1.67
(2) Word Study		9/68	4/69		1.67
(3) Literature		3/68	1/69		1.67
(4) Composition		2/70	6/70		1.67
d. Into Mathematics		7/69	8/69	8/69	6.67
e. Into Science		7/69	8/69	8/69	6.67
f. Into Unified Arts		7/69	1/70		6.67

100.00

--- PERCENT COMPLETE: 11/30/69=88%

1. The upper case letters indicate primary responsibility
   The lower case letters indicate secondary responsibility

since program staff tend to be more receptive to cooperating
in the implementation of a design based on their contributions.

A final strength of the activity analysis rationale is
that it provides a measure of the status of implementation of
a program which can be reported with the program evaluation
findings. Many funding agencies are concerned that the eva-
luation results reported by some programs are not consistent
with expectations since the programs have not been implemented
sufficiently. For example, a vocational education program
may not have achieved its objective of increasing the occupa-
tional awareness of program participants. This outcome can
be accounted for in one of two ways. Either the program was
not successful in bringing about the desired change in the
behavior of the program participants or the program was not
implemented sufficiently to bring about the desired change in
the behavior of the program participants. If the activities
related to the objective of this vocational education program
were organized in the format of an activity analysis table,
the percent completion of activities to date would provide a
measure of the degree to which the activities related to this
objective were implemented. On the basis of the percent com-
pletion to date, the outcome could be attributed to the inef-
fectiveness of the vocational services provided or the failure
of the program to sufficiently implement the services related
to that objective.

In summary, activity analysis is an approach to improving
the evaluation design of ongoing educational programs which

facilitates communication at several levels. Initially, it
enables the program administrator and his staff to communicate
the activities and intents of the program to the evaluation
consultant so that a comprehensive evaluation design for the
program can be developed efficiently. During the process of
formulating this design, the activity analysis tables facili-
tate communication between the program staff and evaluation
consultant. Finally, activity analysis provides a measure
of the status of implementation of the program which communi-
cates to the funding agency the degree to which the program
activities related to each objective have been implemented.
Increased communication in these areas through the applica-
tion of activity analysis is a positive step toward improving
the evaluation design, and subsequently, the overall quality
of evaluation within an ongoing educational program.